

on-board computer and the in-range remote station. A determination is made as to which files are new since last transmission, and the new files are transferred to the remote station.

Neeson et al., as indicated by its title, is an apparatus and method for tracking, reporting and recording equipment inventory on a locomotive. It communicates with devices on-board and builds a "Health Report" indicating their presence or absence and their status. This "Health Report" is transmitted to wayside or base station 54 along the edge of the track, which is subsequently transmitted to the front end processor 46. As specifically indicated in column 8, line 43, "the mobile communications package 12 monitors the on-board intelligent devices and reports initial configuration and configuration changes to the front end processor 46."

As a first point of distinction, there is no description that the intelligent devices can be event recorders, train performance data or track data in files. Even if the intelligent devices are interpreted to include such types of devices, the information in these files are not being collected from the intelligent devices for transmission, but only whether the event recorder train data monitoring devices and track monitoring devices are present or not present or active. It is beyond the scope of Neeson et al. to collect such data nor is it obvious in view of the disclosure of Neeson et al. to collect such data.

As a second point of distinction, there is no determination of a remote station within range. The description in Neeson et al. is that the remote stations are in control of the communications with the locomotive. As indicated in column 7, the paragraph beginning on line 29, the base stations 52 and 54 maintain contact with the locomotive, and the communication is "passed off" to the next station along the path. This infers that there is continuous communication versus intermittent communication, as described in the present process. The files are not transferred, and telecommunication is established. There does not appear to be a disclosure in Neeson et al. that the transmission would be interrupted, stopped or not made if there was not communication with base station 52 or 54.

Thus, Claim 1, as amended, is considered allowable over Neeson et al. by itself or in combination with other references of record.

Claim 22 is directed to a method of transferring files between a remote station and a home base station. This process begins with responding to various trigger events to determine that a transfer is needed. Next, communication is established between the remote station and home base station, and a determination is made as to what files need to be transferred, and the files are transferred. The files to be transferred to the remote station

include one or more of updates to be installed on the remote station and updates to be transferred to and installed on a computer on-board a locomotive. Also, files to be transferred to the home base station include one or more of files received by the remote station from a computer on-board a locomotive and operational information about the remote station.

Although Neeson et al. does communicate information between the on-board locomotive base stations 52 and 54 and front end processor 46, it only transfers the information, the alert and "Health Reports" from the locomotive through the base stations 52 and 54, and information from the front end processor 46 to the locomotive through the base stations 52 and 54. Furthermore, although information is simply stored in base stations 52 and 54, there is no transfer of information of updates to be installed on the remote station nor is there transfer of information to the home base of operational information about the remote station. The remote station is just a conduit or temporary way station which allows communication between the on-board computer and a home base station. Thus, Claim 22 is not anticipated by Neeson et al. nor would it be obvious to modify Neeson et al. to provide the particular information being transferred.

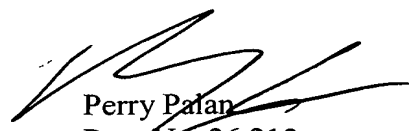
Claims 1-7, 9, 10, 12-23, 25, 26, 28, 29, and 46-49 are considered allowable. Since Claim 1 is still considered generic, Claims 12-14 should also be considered.

An earnest attempt has been made to respond fully to the Examiner's rejections to the claims and to place the instant application in condition for allowance. Thus, passage of this case to issue is respectfully solicited.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg, Deposit Account No. 02-1010 (509/35644).

Respectfully submitted,

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Enclosures

CLEAN COPY OF CHANGES TO THE SPECIFICATION

Page 6, paragraph beginning on line 22 and continuing on Page 7:

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Figure 1 illustrates a train having head-end locomotives 12 and 14 separated from a midtrain locomotive 16 by a plurality of cars. Each of the locomotives includes at least an onboard computer (OBC) 18 connected to a display 20. It also includes an event recorder (ER) 22 connected to the onboard computer 18. The onboard computer 18, through transmitter 24, communicates with the base station 26. The plurality of base stations 26 are provided within proximity of the tracks. The base station may also be a satellite or other types of communication terminals. A data server/playback station (D/PS) 28 is connected to or is part of the base station 26. Additionally, communication with the data server/playback station 28 is provided through modem 30 to a greater network or communication system to be described with respect to Figure 3. The base station 26 may also include an event recorder 32 by itself or in combination with data server/playback station 28.



MARKED-UP COPY OF THE CLAIMS

1. (AMENDED) A method of transferring files between a computer onboard a train and remote stations comprising:
 - collecting one or more of event recorder data, train performance data and track data in files on the on-board computer;
 - determining if a remote station is within range;
 - establishing wireless communication between the on-board computer and the remote station; and
 - determining [whether the computer has files to be transferred] which of the files are new since last transmission, and transferring the new files to the remote station.
8. (CANCELED)
9. (AMENDED) A method according to claim [8] 1, wherein the train includes plural event recorders and including transferring data from each of the event recorders to the on-board computer.
10. (AMENDED) A method according to claim [8] 1, wherein the train includes plural event recorders each being connected to a respective on-board computer; and
 - the method includes establishing wireless communication between the on-board computers and the remote station, and transferring event recorder data from each of the on-board computers to the remote station.
11. (CANCELED)
13. (AMENDED) A method according to claim 12, wherein the parameters include one or more of grade resistance, curve resistance, rolling resistance, tractive effort of the train[s]'s locomotives, dynamic brake effort of the locomotives, pneumatic brake system parameters, and train weight.
22. (AMENDED) A method of transferring files between a remote station and a home base station, comprising:

responding to various trigger events to determine that a transfer is needed;
establishing communication between the remote station and the home base station;
and
determining what files need to be transferred and transferring the files;
wherein the files transferred to the remote station include one or more updates to be installed on the remote station and updates to be transferred to and installed on a computer on board a locomotive; and
wherein the files transferred to the home base station include one or more of files received by the remote station from the computer on board the locomotive and operational information about the remote station.

24. (CANCELED)

25. (AMENDED) A method according to claim [24] 22, wherein determining whether the home base station has updates to transfer to the remote station includes comparing the version in the remote station with the version in the home base station.

26. (AMENDED) A method according to claim[s] 22, wherein trigger event for the transfer of a software update includes a new software version being submitted to the home base station.

27. (CANCELED)

28. (AMENDED) A method according to claim [27] 22, wherein the operational information includes one or more of: locomotives contacted, which software updates were transferred, which onboard computer files were received, and communication statistics.

29. (AMENDED) A method according to claim [27] 22, wherein the home base station uses the onboard computer files for one or more of: analysis, playback, report generation, archival, and backup.

50. (CANCELED)



ATTACHMENT C

CLEAN COPY OF ALL OF THE CLAIMS

WHAT IS CLAIMED:

1. (AMENDED) A method of transferring files between a computer onboard a train and remote stations comprising:
collecting one or more of event recorder data, train performance data and track data in files on the on-board computer;
determining if a remote station is within range;
establishing wireless communication between the on-board computer and the remote station; and
determining which of the files are new since last transmission, and transferring the new files to the remote station.

2. A method according to claim 1, including determining whether the remote station has updates to be transferred and transferring the updates to the on-board computer.

3. A method according to claim 2, wherein the updates include one or more of software updates for the on-board computer, operational data and callbook that defines with which remote stations the onboard computer will initiate communication.

4. A method according to claim 2, wherein determining whether the remote station has updates to be transferred includes comparing the version in the on-board computer to the version in the remote station and transferring only the additions, changes, and deletions resulting between the comparison.

5. A method according to claim 1, wherein determining if a remote station is within range includes determining location of train and location of next remote station.

6. A method according to claim 1, wherein determining if a remote station is within range includes transmitting a wireless query and monitoring for a response.

7. A method according to claim 1, wherein, after an interruption of wireless communication, file transfers may be resumed during one or more subsequent communication sessions until all files have been received successfully.

8. (CANCELED)

9. (AMENDED) A method according to claim 1, wherein the train includes plural event recorders and including transferring data from each of the event recorders to the on-board computer.

10. (AMENDED) A method according to claim 1, wherein the train includes plural event recorders each being connected to a respective on-board computer; and the method includes establishing wireless communication between the on-board computers and the remote station, and transferring event recorder data from each of the on-board computers to the remote station.

11. (CANCELED)

12. A method according to claim 1, including transferring the files from the remote station to a simulator; operating the simulator with the transferred files; and adjusting parameters of the simulator until data of the simulator matches data from the file.

13. (AMENDED) A method according to claim 12, wherein the parameters include one or more of grade resistance, curve resistance, rolling resistance, tractive effort of the train's locomotives, dynamic brake effort of the locomotives, pneumatic brake system parameters, and train weight.

14. A method according to claim 12, analyzing the data from the files on the simulator after adjusting of the parameters.

15. A method according to claim 1, including establishing communication between the remote station and a home base station; and determining what files have to be transferred and transferring the files.

16. A method according to claim 15, wherein the files to be transferred from the home base station to the remote station includes one or more of software updates for the remote station, software updates for the onboard computer, operational data for the onboard computer, and a callbook that defines with which remote stations the onboard computer will initiate communication.

17. A method according to claim 15, wherein the files to be transferred from the remote station to the home base include one or more of files received from the on-board computer and files including operation information of the remote station.

18. A method according to claim 17, wherein operational information includes one or more of: locomotives contacted, which software updates were transferred, which onboard computer files were received, and communication statistics.

19. A method according to claim 15 wherein communication is established between the remote station and the home base when one or more of remote station has new files from the on-board computer, home base has new software for the remote station or on-board computer, requested by user and according to a schedule.

20. A method according to claim 1, including establishing communication between two remote stations; and determining what files have to be transferred and transferring the files.

21. A method according to claim 20, establishing communication and transferring files between remote stations for all the remote stations in a subnet.

22. (AMENDED) A method of transferring files between a remote station and a home base station, comprising:
responding to various trigger events to determine that a transfer is needed;

establishing communication between the remote station and the home base station;
and
determining what files need to be transferred and transferring the files;
wherein the files transferred to the remote station include one or more updates to be installed on the remote station and updates to be transferred to and installed on a computer on board a locomotive; and
wherein the files transferred to the home base station include one or more of files received by the remote station from the computer on board the locomotive and operational information about the remote station.

23. A method according to claim 22, wherein the files transferred to the remote station includes a callbook that defines with which remote stations a computer on board a locomotive will initiate communication.

24. (CANCELED)

25. (AMENDED) A method according to claim 22, wherein determining whether the home base station has updates to transfer to the remote station includes comparing the version in the remote station with the version in the home base station.

26. (AMENDED) A method according to claim 22, wherein trigger event for the transfer of a software update includes a new software version being submitted to the home base station.

27. (CANCELED)

28. (AMENDED) A method according to claim 22, wherein the operational information includes one or more of: locomotives contacted, which software updates were transferred, which onboard computer files were received, and communication statistics.

29. (AMENDED) A method according to claim 22, wherein the home base station uses the onboard computer files for one or more of: analysis, playback, report generation, archival, and backup.

30. (CANCELED)

31. (CANCELED)

32. (CANCELED)

33. (CANCELED)

34. (CANCELED)

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42. (CANCELED)

43. (CANCELED)

44. (CANCELED)

45. (CANCELED)

46. A method according to claim 1, wherein one of the remote stations includes track data; and including transferring the track data to the on-board computer and subsequently transferring the track data from the on-board computer to another remote station.

47. A method according to claim 46, including displaying the track data on the train.

48. A method according to claim 46 wherein the track data includes one or more of signal aspect, crossing gate position, crossing occupancy status, and other trains in the vicinity.

49. A method according to claim 46 including correlating train performance data with track data.

50. (CANCELED)